

### **IN THE CLAIMS**

A complete list of claims is presented below with amendments marked up:

1-12. (Canceled)

13. (Currently amended) An apparatus comprising:

a wavelength switch module (WSM) comprising

a plurality of input ports,

a plurality of output ports, and

a plurality of channels, each coupling a distinct one of the plurality of

input ports to a distinct one of the plurality of output ports, wherein a distinct wavelength  
is designated to a respective one of the plurality of channels;

an optical transceiver, detachably coupled to the WSM, to send a first optical signal to the WSM and to detect a second optical signal received from the WSM after sending the first optical signal, wherein the optical transceiver comprises an encoder to put an identification into the first optical signal to send with the first optical signal to the WSM, and wherein the WSM is operable to send an interrupt in response to detection of a change in the first optical signal received from the optical transceiver; and

a set of one or more processors coupled to the WSM to look up a configuration table to determine which WSM sent the interrupt, to look up a physical location table to determine which port of the WSM identified is affected, and to automatically determine whether the second optical signal corresponds to the first optical signal in response to the identification from the optical transceiver and the interrupt from the WSM.

14. (Original) The apparatus of claim 13, wherein the WSM includes a variable optical attenuator to vary power of the first optical signal before the first optical signal exits the WSM and the optical transceiver includes a light detector to measure power of the second optical signal to determine whether the power of the second optical signal changes in response to the first optical signal.
15. (Previously Presented) The apparatus of claim 13, wherein the optical transceiver includes a decoder to check whether the second optical signal includes the identification.
16. (Canceled)
17. (Currently amended) The apparatus of claim ~~[[16]]~~13, wherein the optical transceiver comprises a light source, which is tunable to a wavelength designated to the channel.
18. (Currently amended) A system comprising:  
an optical network including a plurality of optical fibers; and  
a first optical network node, coupled to the optical network, the first optical network node comprising:  
a wavelength switch module (WSM) comprising  
a plurality of input ports,  
a plurality of output ports, and

a plurality of channels, each coupling a distinct one of the plurality of input ports to a distinct one of the plurality of output ports, wherein a distinct wavelength is designated to a respective one of the plurality of channels;

an optical transceiver, detachably coupled to the WSM, to send a first optical signal to the WSM and to detect a second optical signal received from the WSM after sending the first optical signal, wherein the optical transceiver comprises an encoder to put an identification into the first optical signal to send with the first optical signal to the WSM, and wherein the WSM is operable to send an interrupt in response to detection of a change in the first optical signal received from the optical transceiver; and

a set of one or more processors coupled to the WSM to look up a configuration table to determine which WSM sent the interrupt, to look up a physical location table to determine which port of the WSM identified is affected, and to automatically determine whether the second optical signal corresponds to the first optical signal in response to the identification from the optical transceiver and the interrupt from the WSM.

19. (Original) The system of claim 18, wherein the WSM includes a variable optical attenuator to vary power of the first optical signal before the first optical signal exits the WSM and the optical transceiver includes a light detector to measure power of the second optical signal to determine whether the power of the second optical signal changes in response to the first optical signal.

20. (Previously Presented) The system of claim 18, wherein the optical transceiver includes a decoder to check whether the second optical signal includes the identification.

21. (Canceled)

22. (Currently amended) The system of claim ~~[[21]]~~18, wherein the optical transceiver comprises a light source, which is tunable to a wavelength designated to the channel.

23-26. (Canceled)

27. (Currently amended) A method to verify connectivity between an optical transceiver and a wavelength switch module (WSM), the method comprising:

putting an identification into a first optical signal using an encoder of the optical transceiver;

sending the first optical signal with the identification to the WSM from the optical transceiver, wherein the WSM comprises

a plurality of input ports,

a plurality of output ports, and

a plurality of channels, each coupling a distinct one of the plurality of input ports to a distinct one of the plurality of output ports, wherein a distinct wavelength is designated to a respective one of the plurality of channels;

detecting a second optical signal received from the WSM after sending the first optical signal; and

causing a set of one or more processors coupled to the WSM to look up a configuration table to determine which WSM sent the interrupt, to look up a physical

location table to determine which port of the WSM identified is affected, and to  
automatically determine whether the second optical signal corresponds to the first optical signal in response to the identification from the optical transceiver and an interrupt from the WSM, and wherein the WSM sends the interrupt in response to detection of a change in the first optical signal sent from the optical transceiver.

28. (Previously Presented) The method of claim 27, further comprising:  
measuring power of the second optical signal, by a light detector of the optical transceiver, to determine whether the power of the second optical signal changes in response to the first optical signal, wherein the WSM includes a variable optical attenuator to vary power of the first optical signal before the first optical signal exits the WSM.

29. (Previously Presented) The method of claim 27, further comprising:  
using a decoder of the optical transceiver to check whether the second optical signal includes the identification.

30. (Canceled)

31. (Currently amended) The method of claim ~~[[30]]~~27, further comprising:  
tuning a light source of the optical transceiver to a wavelength designated to the channel.